Experiences of Female and Male Medical Students with Death, Dying, and Palliative Care: One Size Does Not Fit All

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Abstract

Background: Medical students learn about death, dying, and palliative care (DDPC) through formal curricular offerings and informal clinical experiences; however, the lessons learned in the clinic may be at odds with the formal curriculum. Reflective writing is a means for students to "bracket" their DDPC experiences and reconcile conflicts between the formal and informal curriculum.

Objectives: The aim of this study is to compare the level of reflection demonstrated in medical students' narratives on DDPC with other experiences, and to examine the domains of professionalism that students perceive to be prevalent in their DDPC experiences.

Methods: Third-year medical students submitted professionalism narratives during their internal medicine clerkship. We identified a subset of narratives related to DDPC (n=388) and randomly selected control narratives (n=153). We assessed the level of reflection demonstrated in the narratives using a validated rubric and analyzed the professionalism domains that students identified as relevant to their experience.

Results: There was no difference in reflective level between DDPC and control narratives. Within the DDPC group, female students demonstrated higher reflection ($2.24 \pm .71$) than male students ($2.01 \pm .77$; $p < .001$). Caring, compassion and communication, and honor and integrity were prominent among DDPC narratives. More females identified caring, compassion and communication as relevant to their DDPC experiences, whereas more males identified altruism

Conclusions: Males and females have different perceptions of DDPC experiences, and female students appear to be more deeply impacted. These findings can help clinical faculty engage students more effectively with this challenging topic.

Keywords: death, dying, palliative care, end-of-life care, professionalism, reflection, medical education

Introduction

All medical schools in the US offer formal curricula on death, dying, and palliative care (DDPC) to prepare students to care for patients at the end-of-life, although these curricula vary widely in content and intensity.[1] Medical students who had been exposed to DDPC in the formal curriculum report feeling better prepared to provide end-of-life care to their patients;[2] however, students' experiences with dying patients during their clinical clerkships often have a greater influence on their learning and perceptions of DDPC than formal classroom-based curricula.[3,4]

During their clinical clerkships students learn technical skills as well as how to interact with patients, families, and other members of the healthcare team. Much of this learning is accomplished through observing role models such as residents and attending physicians. These interpersonal interactions comprise what has been termed the informal curriculum or hidden curriculum in medical education. The hidden curriculum refers to implicit messages about the culture of medicine that are conveyed through actions and behaviors based on unspoken social norms.[5] Unfortunately, the examples of end-of-life and palliative care that students observe in the clinical setting do not always align with what is taught in the formal curriculum. Exposure to informal and hidden curricula that devalue end-of-life care results in students feeling underprepared and can lead to negative attitudes toward end-of-life care.[2] Rabow and colleagues found that students' perceptions of discordance between the formal and informal or hidden curriculum were associated with more negative perceptions of educational quality and institutional values regarding end-of-life care.[6]

Much of the discordance between the formal curriculum and the informal and hidden curricula stems from the fact that many residents and attending physicians were never formally trained in DDPC or were inadequately trained. A large number report that they do not feel

prepared to address end-of-life issues including responding to patients' fears of dying, helping families with bereavement, or managing their own feelings about patients' deaths.[7] These residents and physicians may lack the requisite skills to model effective communication with patients at the end of life. Consequently students are often left on their own to discern the appropriate attitudes and behaviors for providing end-of-life care.

Professionalism is also a competency that is explicitly taught in the formal curriculum but often enacted differently within the hidden curriculum. Like DDPC, this disjunction can leave students feeling cynical and disillusioned toward their education, the health system, the practice of healthcare, as well as toward patients and families. Reflective activities such as journaling are becoming more prevalent in medical education as a means of promoting students' development of professionalism, communication skills, and professional identity.[8] Reflection has also been cited as a tool to help students reconcile conflicting messages between the formal and informal curricula and distinguish between positive and negative role models.[9] Indiana University School of Medicine (IUSM) introduced reflective writing into the Internal Medicine (IM) clerkship in 2004 to encourage students to reflect on how their clinical experiences teach them about professionalism. By allowing students to choose a particular experience or incident on which to reflect, these narratives have provided a unique view of our students' lived experiences and the types of situations that they perceive as meaningful and significant in terms of their professional development.[10,11] Over the years, a number of students have chosen to write about experiences related to DDPC as both positive and negative examples of professionalism. A previous analysis of these narratives found that students' experiences with DDPC were more overall positive than other types of clinical experiences.[4] While this finding speaks well for the informal curriculum at IUSM, it does not provide insight into which aspects of professionalism students learn from

situations involving DDPC, nor does it necessarily mean that students are actually learning from these experiences. If reflection is indeed a means by which students learn from their experiences, then it can be reasonably assumed that engaging in deeper reflection will result in greater learning from that experience.[12] Prior analysis of medical students' reflections at IUSM found that medical students who demonstrated deeper levels of reflection (as measured by a validated rubric) were less likely to have been cited for professionalism lapses during medical school.[13] Along these lines, perhaps emotional experiences, such as those involving DDPC may invoke a deeper level of reflection and learning than other types of experiences. And if this is indeed the case, what do students learn from their experiences involving DDPC?

A recent study by Borgstrom et al. examined medical students' reflective essays about their experiences involving DDPC and found that medical students typically find such exercises valuable and that students demonstrate a range of depth of reflection, from low level reporting to high level committed reflection.[14] However, this study did not compare the level of reflection demonstrated in students' reflections on DDPC with those involving other types of experiences. Another study by Braun and colleagues reported that medical students' reflections about DDPC experiences could be used to assess a number of professionalism competencies including caring and compassion, respect, empathy, and self-awareness.[15] However, the students in this study were not explicitly asked to discuss professionalism, so it is possible that these reflections did not accurately capture the students' perceptions of what these experiences taught them about professionalism.

The purpose of this study is twofold: first, to determine whether medical students demonstrate a deeper level of reflection when reflecting upon experiences related to DDPC than when reflecting upon other experiences; and second, to examine the domains of professionalism

that students perceive to be prevalent in their clinical experiences related to DDPC. We also examined whether these factors varied between male and female students, as female students have been found to be more empathetic, and thus may experience situations involving DDPC from a different perspective than male students.[16-18]

Methods

Professionalism narratives

The narratives used for this study were written by third-year medical students at IUSM during their IM clerkship between February 2004 and May 2011. The students submitted the narratives in response to the following prompt: "Please describe an experience you have had (either positive or negative) that has taught you about professionalism during your internal medicine clerkship." The narratives were submitted via a password-protected course management website. Although the narrative was a required component of the clerkship, the students were not graded on their submissions. The Institutional Review Board at IUSM has approved the use of these narratives for research purposes after the students have graduated. The IRB has also reviewed the protocol for this study and deemed it exempt from full board review (protocol number 1205008665).

We searched the database of 4,062 professionalism narratives using the "Find" function in Microsoft Excel to identify narratives related to DDPC. We searched for terms such as "death," "dying," "palliative care," and "end-of-life," and added new terms based upon similar words found in the resulting narratives until no new relevant narratives were identified. Our search resulted 496 narratives, of which 108 were excluded because they were not actually about DDPC (96), were duplicates (8), or were incomplete (4). We then randomly selected 155 narratives not related to DDPC to serve as controls. Two of the control narratives were

incomplete and excluded from analysis. Thus, 541 narratives were analyzed, of which 388 were DDPC narratives and 153 were controls. All of the narratives were de-identified prior to analysis.

Professionalism domains

At the time the students submitted their professionalism narratives, they were asked to indicate which domains of professionalism they perceived to be relevant (i.e. well demonstrated or poorly demonstrated) in the situation they described in their narrative. The students could select as many domains as they felt were applicable from a list of eight professionalism domains which were provided in the instructions. The eight professionalism domains were: (1) altruism, (2) responsibility and accountability, (3) excellence and scholarship, (4) respect, (5) honor and integrity, (6) caring, compassion, and communication, (7) leadership, and (8) knowledge and skills. These domains were based upon categories of professional behaviors that emerged from a conference co-sponsored by the Association of American Medical Colleges (AAMC) and the National Board of Medical Examiners (NBME).[19]

Reflection scoring

After selecting the narratives for analysis, a validated rubric was used to assess the level of reflection demonstrated in each narrative.[20] The reflective ability rubric describes seven levels of reflection ranging from no reflection to deep, critical reflection (see Table 1). Three researchers (LAH, MLH, and RM) were trained according to the rubric's guidelines by scoring five narratives together, followed by 10 narratives independently. We then assessed the interrater reliability (IRR) of the scores of these 10 narratives using an intraclass correlation (ICC). [21] If IRR was below 0.8, we discussed any large discrepancies in scoring and reviewed the scoring guidelines. Once reliability reached 0.8, one of the authors (LAH) proceeded to

score the remaining narratives independently. IRR was assessed periodically by having all three raters score 10 narratives and calculating ICC. This was done to ensure that the primary rater did not stray from the rubric's criteria. Overall, 75 of the 541 narratives were scored by all three raters, and the ICC for these 75 narratives was 0.89.

Statistical Analysis

The average reflection scores between the DDPC narratives and control narratives were compared using a t-test with independent samples. A t-test was also used to compare the average reflection scores between male and female students. A series of Chi-square tests were used to examine the professionalism domains selected for the DDPC narratives versus the control narratives, and for male versus female students. All statistical analyses were conducted using SPSS Version 23 (IMB Corp., Armonk, NY).

Results

A Chi-square test revealed no significant differences in the gender distribution of DDPC versus control narratives. The gender distribution of the two groups is reported in Table 2. A t-test revealed no significant differences in reflection scores between the DDPC group (2.12 ± 0.78) and the control group (2.09 ± .68; $p = .58$). There were, however, significant differences in the reflection scores between male and female students, with females demonstrating greater reflection than males (females = 2.24 ± .71, males = 2.01 ± .77; $p < .001$). We performed a follow up t-test by comparing reflections scores of males versus females within each group and found no difference in reflection scores between males and females in the control group (females = 2.15 ± .61, males = 2.03 ± .74; $p = .30$), but a significant difference in the DDPC group (females = 2.28 ± .75, males = 2.00 ± .79; $p = .001$). This finding indicates that females

demonstrate greater reflection than males when reflecting upon experiences related to DDPC, but not when reflecting upon other types of clinical experiences.

The professionalism domains selected by students were also compared between the DDPC group and control group using Chi-square tests. The number of narratives that addressed each domain are summarized in Table 3. We found a significantly greater proportion of DDPC narratives related to honor and integrity (39.9% versus 24.2% of controls), and caring, compassion, and communication (84.5% versus 71.9% of controls). The following excerpt from a DDPC narrative was submitted by a student who selected honor and integrity and caring, compassion, and communication as relevant to their experience:

> My first patient…was a young woman with end stage cancer… This particular patient chose not to undergo chemotherapy since her diagnosis 3 years ago, despite the fact that it might allow her several more years to spend with her family… She also made it very clear that she did not want to know her prognosis. This obviously complicated options for setting up palliative care. It also presented some ethical issues for our team in terms of how we were to care for this patient's family, given that we were not to discuss prognosis. Despite feeling rather conflicted in trying to balance our responsibility for her care and for her autonomy, my attending was able to be honest with her about what could be done to manage her symptoms while still respecting her right to decline treatment… After she was discharged, my attending followed up with her, maintaining some consistency in her care. I initially struggled a lot with the idea of not being able to 'fix' anything, but by the end of this woman's hospital visit [I] saw that what patients need from us sometimes has nothing to do with resolving a physical illness. And meeting those needs plays an enormous role in care of the patient. (1288)

Conversely, we found a significantly greater proportion of control narratives involved excellence and scholarship (18.3% versus 10.6% of DDPC), as the example below illustrates:

> My staff this month has a fund of knowledge that is unparalleled. He knows the major study for every clinical question that you can imagine. Our patients always get the best care because he knows the best data on every condition. I have found that many staff/residents rely on medical "tradition" or "urban legend" when it comes to treating

> many conditions. But our staff has dedicated countless hours to making sure he knows the latest data. (837)

We also examined the professionalism domains selected by male and female students and found significant gender differences in the proportion of students who selected altruism and caring, compassion, and communication. We again sorted the narratives by group and re-examined the domains selected by each gender and found that this difference only existed within in the DDPC group. As illustrated in Table 4, a greater proportion of male students selected altruism (31.5% versus 19.8% of females), while a greater proportion of female students selected caring, compassion, and communication (90.7% versus 79.6% of males).

Discussion

We found that overall, students do not exhibit deeper levels of reflection when writing about experiences related to DDPC than they do when writing about other types of clinical experiences, and important finding given the literature, which tends to focus on the unique characteristics of DDPC. However, female students demonstrated higher levels of reflection than their male counterparts when writing about experiences related to DDPC, but not when writing about other types of experiences, which suggests that females experience DDPC differently than males.

Hojat et al. found that female medical students were at higher risk of being negatively influenced by stressful life events, such as the death of a family member, than their male counterparts, which might explain why female students reflect more deeply on experiences related to DDPC.[22] Female medical students have also been found to exhibit greater empathy and non-verbal sensitivity than male students,[16-18,23] which may elicit deeper reflection, whereas male students may have more difficulty empathizing with dying patients and their families. The

difference in reflection scores may also relate to social stereotypes that females are inherently more emotional than males, and thus feel more comfortable reflecting upon their emotional reactions to experiences involving DDPC. Male students, on the other hand, may feel socially pressured to hide their emotions and, as a result, are less inclined to acknowledge and reflect upon their reactions to such emotionally charged situations. Students' emotional reactions to DDPC are also influenced by implicit or explicit messages conveyed by the informal or hidden curriculum. Baker et al. interviewed medical students about their experiences with DDPC and found that some students felt pressured to conceal their emotions, while others were encouraged to express emotion, although this study did not discuss whether gender was a factor.[24]

Because we found no differences in reflection scores between male and female students in narratives related to other experiences, we believe that experiences related to DDPC are unique in their ability to elicit deeper reflection in female students. Future studies might explore why clinical experiences related to DDPC rouse such a reaction from female students while other types of experiences do not. Is there something inherently profound about death and dying that makes students ponder their own mortality? Or perhaps some students have experienced the death of a loved one, which elicited deeper reflection. Future studies might also explore why this effect is observed in female students, but not males.

We also found differences in the specific domains of professionalism that students observed during their experiences with DDPC versus other experiences. Students indicated that experiences related to DDPC more frequently involved honor and integrity, and caring, compassion, and communication. The prevalence of caring, compassion, and communication when describing DDPC experiences is not surprising, as these are often emotionally challenging situations in which compassion and effective communication are essential. Honor and integrity

are also important in DDPC situations because physicians are obliged to be upfront and honest about the patients' prognosis, and to honor their patients' and families' wishes in terms of continuing or withdrawing treatment.

When examining the distribution of professionalism domains by gender within the DDPC group we found significant differences in the domains of caring, compassion and communication, and altruism. Significantly more females selected caring, compassion, and communication, while more males selected altruism. This, again, may reflect the societal stereotype that women are innate caregivers, and thus they may be more inclined to notice the care and compassion that is prevalent in these situations, while not necessarily perceiving their care as being selfless or altruistic. In contrast, male students may perceive caring for dying patients as altruistic because they are giving their time and energy to provide care that could be considered futile. It should be noted that 64 of the 68 male students who selected altruism also selected caring, compassion, and communication as relevant to their experience. It might, therefore, be more accurate to say that male students perceive experiences related to DDPC as demonstrating altruism *in addition* to caring, compassion, and communication.

Limitations

This study was conducted at only one institution, which may limit the generalizability of our findings to other institutions. In addition, the students submitted the professionalism narratives during the IM clerkship, during which students may not necessarily be sufficiently exposed to DDPC when compared to the entirety of their undergraduate clinical training. Indeed, of the 4,062 narratives in our database, less than 10% discussed a situation involving DDPC. This suggests that students were either not exposed to DDPC during their IM clerkship, or they chose not to reflect on any DDPC experience they may have had. We also did not collect

any other demographic data on the students, therefore we cannot assess whether a student's cultural or ethnic background may have influenced their decision to write about a DDPC experience or their reaction to such an experience.

Conclusions

We found that experiences related to DDPC appear to invoke a deeper level of reflection among female students than among male students. Whether this deeper level of reflection translates to greater learning from these experiences or better end-of-life care for their future patients requires further investigation. Caring, compassion, and communication and honor and integrity were identified as prominent professionalism domains demonstrated during DDPC experiences. More females identified caring, compassion and communication as relevant to their DDPC experiences, whereas more males identified altruism, which suggests that males and females have different perceptions of these experiences. There is currently a significant shortage of physicians electing to go into the field of oncology, and it is heavily weighted toward males. If recruiting a greater number of females to the field would help address this shortage, perhaps it would be wise to develop curricula for medical students that take advantage of gender differences in the experience of DDPC to better understand the potential impact of these differences in specialty selection.

In conclusion, medical students' narratives on DDPC provide an important substrate for students to learn about professionalism and to develop their reflective skills. These narratives are also a window into students' lived experiences with DDPC, which can help clinical faculty to engage their students more effectively with this challenging topic.

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Table 1

Levels of Reflection Measured by Reflective Ability Rubric[a]

Level	Reflection Performance
0	Does not respond to the assignment
1	Describes procedure/case/setting without mention of lessons learned
2	States opinions about lessons learned unsupported by examples
3	Superficial justification of lessons learned citing only one's own perspective
4	Reasoned discussion well-supported with examples regarding challenges, techniques, and lessons learned, and includes obtaining feedback from others or other sources
5	Analyzes the influence of past experience on current behavior
6	Integrates all of the above to draw conclusions about learning, provides strategies for future learning or behavior, and indicates evidence for determining the effectiveness of those strategies

[a]Source: "Reflective ability rubric and user guide," by P.S. O'Sullivan, L. Aronson, E. Chittenden, B. Niehaus, and L. A. Learman, 2010, *MedEdPORTAL* p. 5-6. Used with permission.

Table 2

Gender distribution between DDPC and control narratives

Gender	DDPC narratives n (%)	Control narratives n (%)
Female	172 (44.3)	72 (47.1)
Male	216 (55.7)	81 (52.9)

Table 3

Frequency of professionalism domains selected by students and comparison between DDPC and control narratives

Professionalism Domain	DDPC narratives n (%)	Control narratives n (%)	Chi-Square	p
Altruism	102 (26.3)	31 (20.3)	2.150	.15
Responsibility and accountability	170 (43.8)	57 (37.3)	1.939	.18
Excellence and scholarship	**41 (10.6)**	**28 (18.3)**	**5.898**	**.02**
Respect	262 (67.5)	99 (64.7)	.393	.54
Honor and integrity	**155 (39.9)**	**37 (24.2)**	**11.913**	**.001**
Caring, compassion, and communication	**328 (84.5)**	**110 (71.9)**	**11.375**	**.001**
Leadership	88 (22.7)	42 (27.5)	1.368	.26
Knowledge and skills	55 (14.2)	31 (20.3)	3.040	.09

Table 4

Frequency of professionalism domains and comparison between female and male students within the DDPC group

Professionalism Domain	Females n (%)	Males n (%)	Chi-Square	p
Altruism	**34 (19.8)**	**68 (31.5)**	**6.780**	**.01**
Responsibility and accountability	71 (41.3)	99 (45.8)	.807	.41
Excellence and scholarship	18 (10.5)	23 (10.6)	.003	1
Respect	118 (68.6)	144 (66.7)	.164	.74
Honor and integrity	72 (41.9)	83 (38.4)	.471	.53
Caring, compassion, and communication	**156 (90.7)**	**172 (79.6)**	**8.973**	**.003**
Leadership	39 (22.7)	49 (22.7)	0	1
Knowledge and skills	25 (14.5)	30 (13.9)	.033	.88